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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/901,737	07/09/2001	Edouard G. Lebel	S-21043B	1621

22847 7590 11/22/2005

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EXAMINER

KUBELIK, ANNE R

ART UNIT PAPER NUMBER

1638

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/901,737

Applicant(s)

LEBEL ET AL.

Examiner

Anne R. Kubelik

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☒ Responsive to communication(s) filed on 21 July 2005 and 26 August 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 6-9, 13-23 and 30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 6-9, 13-23 and 30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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### **DETAILED ACTION**

1. The RCE filed 21 July 2005 is not accepted. 37 CFR 1.114 provides a procedure under which an applicant may obtain continued examination of an application in which prosecution is closed (e.g., the application is under final rejection or a notice of allowance) by filing a submission and paying a specified fee. See MPEP 706.07(h)
2. Claims 6-9, 13-23 and 30 are pending.
3. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
4. The objection to claim 13 under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim is withdrawn in light of Applicant's cancellation of the claim.
5. The rejection of claims 6-9, 13-23 and 30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement is withdrawn in light of Applicant's amendment of the claims.
6. The rejection of claims 6-7, 13, 21 and 30 are rejected under 35 U.S.C. 102(e) as being anticipated by Borriss et al (US Patent 5,470,725, filed February, 1990) is withdrawn in light of Applicant's amendment of the claims.

### ***Claim Objections***

7. Claims 8-9, 16-17, 19-21 and 23 are objected to because there should be a comma before "wherein" in line 1.

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***Claim Rejections - 35 USC § 112***

8. Claims 8-9, 14-15 and 30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter that Applicant regards as the invention. The rejection is different from the rejection set forth in the Office action mailed 19 May 2005, as applied to claims 6-9, 13-23 and 30. Applicant's arguments filed 21 July 2005 do not apply to this new rejection.

Claim 30 is indefinite for being dependent upon a cancelled claim.

9. Claims 6-9, 14, 16-17, 19-23 and 30 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter that was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The rejection is repeated for the reasons of record as set forth in the Office action mailed 19 May 2005, as applied to claims 6-9, 13-23 and 30. Applicant's arguments filed 21 July 2005 have been fully considered but they are not persuasive.

Applicant urges that the amendments to the claim obviate this rejection (response pg 4-5).

This is not found persuasive because the specification only describes a single fungal  $\beta$ -1,4-endoglucanase coding sequence, which is not a representative number of all fungal  $\beta$ -1,4-endoglucanase coding sequences, and only describes  $\beta$ -1,4-endoglucanases from one *Thermomonospora* species, *T. fusca*. However, the *Thermomonospora* genus includes 6 other species, *T. alba*, *T. chromogena*, *T. curvata*, *T. formosensis*, *T. mesophila*, and *T. mesouiformis*;

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no nucleic acids encoding cellulases are described from any of these species. The structural features of  $\beta$ -1,4-endoglucanases are not described within the full scope of the claims.

10. Claims 6-9, 14, 16-17, 19-23 and 30 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for *T. fusca*  $\beta$ -1,4-endoglucanase-encoding sequences and plants transformed with them, does not reasonably provide enablement for nucleic acids encoding all  $\beta$ -1,4-endoglucanases. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention commensurate in scope with these claims. The rejection is repeated for the reasons of record as set forth in the Office action mailed 19 May 2005, as applied to claims 6-9, 13-23 and 30. Applicant's arguments filed 21 July 2005 have been fully considered but they are not persuasive.

Applicant urges that the claims do not attempt to claim nucleic acids encoding all cellulases or non-transformed plants (response pg 6).

This portion of the rejection is withdrawn.

Applicant urges that it would not be undue experimentation to transform plants with a different  $\beta$ -1,4-endoglucanase given the explanation of transformation with an exemplary  $\beta$ -1,4-endoglucanase (response pg 6).

This is not found persuasive because the specification only teaches one nucleic acid encoding a fungal  $\beta$ -1,4-endoglucanases, and nucleic acid encoding a fungal  $\beta$ -1,4-endoglucanases from only one *Thermomonospora* species. The rejection is not transformation per se, but on a lack of teaching of the starting materials.

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*Claim Rejections - 35 USC § 103*

11. Claims 6-8, 14-17, 19, 21-23 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Van Ooyen et al (US Patent 5,705,375, filed June 1992) in view of Lao et al (1991, J. Bacteriol. 173:3397-3407). The rejection is repeated for the reasons of record as set forth in the Office action mailed 19 May 2005, as applied to claims 6-8, 13-26 and 30.

Applicant's arguments filed 21 July 2005 have been fully considered but they are not persuasive.

Applicant urges that the claims are not obvious over the references as van Ooyen describes transforming plants with an amylase, not a  $\beta$ -1,4-endoglucanase (response pg 7).

This is not found persuasive because Van Ooyen et al suggests expressing a microbial endo-1,4- $\beta$ -glucanases in plants (column 4, lines 11-36).

Applicant urges that there is no teaching to combine the reference of van Ooyen with Lao (response pg 7).

This is not found persuasive because the selection of the nucleic acid encoding  $\beta$ -1,4-endoglucanase is an obvious designer choice.

Applicant urges that there is no evidence that transforming a plant with an  $\beta$ -1,4-endoglucanase alters carbohydrate content (response pg 7).

This is not found persuasive. The instant claims do not require that the plants have altered carbohydrate content.

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12. Claim 9 is free of the prior art given the failure of the prior art to teach or suggest plants transformed with a construct comprising a microbial endoglucanase coding sequence operably linked to a PR-1, PR-1a, PR-2, PR-3, PR-4, or PR-5 promoter. Claim 20 is free of the prior art given the failure of the prior art to teach or suggest plants transformed with a construct comprising nucleic acid encoding a cellulase coding sequence operably linked to vacuole-targeting sequence.

### *Conclusion*

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anne R. Kubelik, whose telephone number is (571) 272-0801. The examiner can normally be reached Monday through Friday, 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Gary Jones, can be reached at (571) 272-0745.

The central fax number for official correspondence is (571) 273-8300.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to (571) 272-0547.

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Anne Kubelik, Ph.D.  
November 10, 2005

A handwritten signature in black ink, appearing to read 'Anne Kubelik', with a large, stylized flourish at the end.